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ABSTRACT

A number of sample inventories were conducted to measure the effectiveness of the Tattle-Tape book detection systems used in the Moffitt Undergraduate Library and the General Reference Services area of Doe Library, and to establish baseline data for missing materials in four branch libraries (Education-Psychology, Engineering, Environmental Design, Graduate Social Sciences). The utilization made of these collections was also assessed, and additional useful information regarding missing materials from these and other collections was gathered. Data tables present the levels of missing materials for each collection studied, profiles of each collection, collection utilization statistics, and specific inventories of each collection. Appended are the code book for the Statistical Package for Social Sciences (SPSS), which was used to analyze the data; search forms for each branch; instructions for diagnostics and searchers; the inventory coding form and code book for Education-Psychology; the 1974 inventory of the Moffitt Library; the 1976 and 1977 inventories of the General Reference Services collection at Doe Library; and a task chart and schedules for the project. (JD)

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A STUDY OF BOOK DETECTION SYSTEMS EFFECTIVENESS AND THE LEVELS OF MISSING MATERIALS AT THE UNIVERSITY OF CALIFORNIA, BERKELEY

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by

Neal K. Kaske
with the assistance of
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Library Systems Office
The General Library
University of California, Berkeley
January, 1978

IR006513

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3. EXECUTIVE SUMMARY

The main purpose of this research project was to ascertain the effectiveness of the Tattle-Tape book detection systems used in the Moffitt Undergraduate Library and in the General Reference Services located in the Doe Library and to establish baseline data regarding the level of missing materials in four branch libraries (Education-Psychology, Engineering, Environmental Design, Graduate Social Sciences). A secondary purpose was to assess the utilization made of these collections and to gather additional useful information regarding missing materials from these and other collections within the time and budget constraints of the project.

The collections assessed and the methodologies used are presented in Table 1 (pages 5 and 6). The levels of missing materials for each collection studied are listed below.

Moffitt Women's Studies	22.93%	T
Moffitt Chicano Studies	20.00%	T
Moffitt 1976-77 Acquisitions	3.61%	
Graduate Social Sciences-Reserve Collection	0.55%	
Graduate Social Sciences-Non-Reserve Collection	1.71%	
Engineering	5.23%	
Education-Psychology	2.34%	
Environmental Design-Reserve Collection	3.95%	
Environmental Design-Non-Reserve Collection	7.85%	
Education-Psychology-Special (overall figure)	2.67%	T
Doe-Contemporary Art	13.40%	T

"T" denotes that a total inventory of these materials was made and no "T" means the information was obtained using a sampling technique for which the results are, for the most part, given at the 95% confidence level.

The materials assessed by the current research were to have all been added to these collections within the last five years (1972-1977). This was true except for three cases: 1) Doe-Contemporary Art, where all items in that section were inventoried; 2) Education/Psychology-Special where all items were inventoried; and 3) Moffitt, where all of the materials inventoried had been in the collection for eighteen months or less.

The percentages above provide baseline missing levels for the four branch libraries studied. These libraries will be studied to ascertain the effectiveness of the theft detection systems in two or three years.

The collected data were analyzed to determine if a predictor of the level of missing materials could be found. The standard regression and stepwise inclusion of variables regression techniques provided by the SPSS system were used. No significant predictor or combination of predictors could be found. This may in part be due to the homogeneous nature of the data (all materials added to the collections in the last five years or last eighteen months), or it could mean that there is no good predictor for what will be missing from a collection.

Moffitt. The findings indicate that the book detection system in the Moffitt Undergraduate Library is effective in lowering the level of missing materials. The chart below provides comparable data regarding Moffitt's level of missing materials found by the present and past research.

Chart A

COLLECTION	YEAR	MISSING LEVEL	VOLUMES INVENTORIED
Women's Studies HQ1101 - end HQ (Soc.-women)	1977	22.93%	1,255
	1974[1]	31.40%	280
Chicano Studies E184 - 185.97 (Ethnic Studies)	1977	20.00%	735
	1974[1]	40.50%	1,257
Sample of Total Collection	1977	3.61%	583
	1975[2]	13.70%	1,883

[1]Data taken from Moffitt's Inventory 1974 report, Attachment #1, p. 17, (see Appendix G).

[2]Data taken from A Report on the Moffitt Undergraduate Library Book Theft Study, March 1975, p. 8.

General Reference. An item-by-item inventory was made of part of the General Reference Services' collection (Reference Room materials only) during September 1977. The work was done by the GRS staff; copies of their 1976 and 1977 reports are presented in Appendix H. In 1977 the Trade and National Bibliography Section and the Reference Stack were not inventoried, but in 1976 they were; therefore, the findings are not comparable as reported. The 1977 inventory will be comparable to future inventories if the size of the current collection (Reference Room only as of September, 1977) is determined and if the same population is inventoried in the future with a knowledge of its growth.

In an effort to provide some information on the effectiveness of the book detection systems used in the Reference Room the following chart is offered. The data are taken from past GRS inventory reports.

	1970	1974	1976	1977
Volumes missing for the first time	128	221	126	95
Total number of volumes missing	348	442	534	276
Volumes missing in 1976 but located in 1977				39

These data seem to indicate that the current level of materials missing from the GRS collection is lower than it was eighteen months ago if it is assumed that there are fewer materials missing from the Trade and National Bibliography Section and from the Reference Stack. The GRS staff do not believe that many materials are missing from these two areas. With these data and making the assumptions noted above, it appears the book detection system in the Reference Room is effective in lowering the level of missing materials from the collection.

Utilization

Utilization was defined as the number of times (0, 1 or 2, 3 or more) titles had been charged out for home use. The data were collected from the date due slips in the materials at the time of the sample inventories. The percentage of titles

in each collection which had circulated at least once are listed below. Missing volumes were assumed to have been used ("circulated") at least once

Moffitt Women's Studies	94.92%	18 months
Moffitt Chicano Studies	94.24%	
Moffitt 1976-77 Acquisitions	72.66%	
Graduate Social Sciences-Reserve Collection	80.77%	5 years
Graduate Social Sciences-Non-Reserve Collection	70.49%	
Engineering	65.98%	
Education-Psychology	69.80%	
Environmental Design-Reserve Collection	76.92%	
Environmental Design-Non-Reserve Collection	51.20%	

Collections Studied

Table 1

Location	Collection	Level of Missing Material Assessed	Level of Utilization Assessed	Sample or Total Inventory
Education Psychology Library	General collection, 1972 publication to date, both monographs and serials	yes	yes	sample
Education Psychology Library	Special inventories of three subject areas: 1. History (E) 2. Juvenvile (P and Rowell) 3. Medicine (RC through RJ)	yes	no	total inventory
Engineering Library	General collection, 1972 publications to date, both monographs and serials	yes	yes	sample
Environmental Design Library	General collection, 1972 publications to date, both monographs and serials	yes	yes	sample
Environmental Design Library	Reserve collection, 1972 publications to date, both monographs and serials	yes	yes	sample
Graduate Social Science Library	General collection, 1972 publications to date, both monographs and serials	yes	yes	sample
Graduate Social Science Library	Reserve collection, 1972 publications to date, both monographs and serials	yes	yes	sample
Main Library	Contemporary Art (inventory/mutilation)	yes	no	total inventory

Collections Studied
Table 1
(continued)

Location	Collection	Level of Missing Material Assessed	Level of Utilization Assessed	Sample or Total Inventory
Moffitt Undergraduate Library	Women's Studies, all materials added in the last 18 months, monographs[1] only, both reserve and non-reserve materials	yes	yes	total inventory
Moffitt Undergraduate Library	Chicano Studies, all materials added in the last 18 months, monographs[1] only, both reserve and non-reserve materials	yes	yes	total inventory
Moffitt Undergraduate Library	General Collection, all materials added in the last 18 months, monographs[1] only, both reserve and non-reserve materials	yes	yes	sample

[1] and very limited serial titles

The findings for the Moffitt Undergraduate Library indicate that the book detection system is effective. The level of missing material had been assessed in 1974 and 1975. When the results of these two previous studies are compared to the current research, significantly lower levels are found in all areas. To provide an overview of the past and current findings the following chart is offered. Notice the column on the right which shows the percentage change in each area assessed.

COLLECTION	YEAR	MISSING LEVEL	VOLUMES INVENTORIED	OVERALL % LOWERED BY
Women's Studies HQ1101 - end HQ (Soc.-women)	1977	22.93%	1,255	8.47%
	1974[1]	31.40%	280	
Chicano Studies E184 - 185.97 (Ethnic Studies)	1977	20.00%	735	20.50%
	1974[1]	40.50%	1,257	
Sample of Total Collection	1977	3.61%	583	10.09%
	1975[2]	13.70%	1,883	

The inventories in Moffitt were only of materials that had been added to the collection during 1976 and the first eight months of 1977. This is the time during which the library has been protected by the Tattle-Tape System. Actually the book detection system could not be thought of as fully operational until the Fall quarter of 1977 because of an unprotected exit used part of the time. Anyone wanting to remove a book without checking it out could do so by waiting until after midnight and then leaving through the study hall exit before 2 a.m. A library employee at this exit was to check briefcases, book bags, etc. The egress system has now been changed so all patrons leaving at any time must pass through a Tattle-Tape protected exit. The level of missing material is expected to be lower in the future because of the change. (The next theft study should be done only of material that has been added to the collection after this exit modification after September 1977.)

However, from the preceding chart it is apparent that the level of missing material has already been considerably lowered. Because the only major change has been the addition of the Tattle-Tape book detection system, it can be concluded that the system is effective.

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[1]Data taken from Moffitt's Inventory 1974 report, Attachment #1, p. 17, shown in Appendix G of this report.

[2]Data taken from A Report on the Moffitt Undergraduate Library Book Theft Study, March 1975, p. 8.

Location & Collection	Searched Titles	Searched Volumes	Not Found % [Vols]	Shelfread Volumes	Misshelved % [Vols]	Missing Percent [Note 1]	Confidence Interval [Note 2]	Missing Range at 95% C. L. [Note 3]
Moffitt / Women's	631	1,255	23.11% [290]	18,141	0.18% [32]	22.93%	±2.40	20.53-25.33%
Moffitt / Chicano	313	735	20.14% [148]	8,999	0.14% [13]	20.00%	±3.13	16.87-23.13%
Moffitt / 1976-77	420	[illegible]	3.95% [23]	12,075	0.34% [41]	3.61%	±2.44	1.17-6.05%
GSSL / Reserve	234	[illegible]	1.06% [3]	6,728	0.51% [34]	0.55%	±3.50	0-4.05%
GSSL / Non-Reserve	366	565	3.19% [18	10,523	1.48% [156]	1.71%	±2.47	0-4.18%
GSSL Total		847	2.48% [21]	17,251	1.10% [190]	1.38%	±2.02	0-3.40%
Engineering	591	1,061	5.84% [62]	16,991	0.61% [104]	5.23%	±1.81	3.42-7.04%
Education - Psychology	606	823	2.67% [22]	17,423	0.33% [58]	2.34%	±2.05	0.29-4.39%
Envir. Des. Reserve	260	409	4.65% [19]	7,475	0.70% [52]	3.95%	±2.91	1.04-6.86%
Envir.Des. Non-Reserve	353	442	8.78% [31]	10,149	0.93% [94]	7.85%	±2.80	5.05-10.65%
EDL Total		851	5.88% [50]	17,624	0.83% [146]	5.05%	±1.91	3.14-6.96%

[1]The missing value once it is adjusted for the level of misshelved volumes.

[2]The interval for the adjusted missing value given the sample size and confidence level. The value is also adjusted for the level of misshelving.

[3]The range of the values for adjusted missing given the 95% confidence level. This is the range for what is assumed missing (stolen).

4. FINDINGS[1]

A. Collection Status

In order to fulfill the main purpose of this research project, to measure the effectiveness of the Moffitt and GRS Tattle-Tape systems and to establish baseline missing data for selected branches, a number of sample inventories were conducted. This section of the report provides these estimates, along with the levels of misshelving found during the inventories. The results for all collections sampled is given on the following page. The last column of the chart provides the range in which the levels of missing material are estimated to be at the 95% confidence level. (If the study were conducted 100 times, the results would be within that range 95 of those times.) Note that the confidence intervals vary with the size of the sample. In the cases of GSSL and Environmental Design the samples were drawn for the collections as a whole. However, since such a large proportion of each is on reserve, the data are also presented with that division, even though these figures are not as precise.

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[1]The Findings chapter has been placed before the Methodology chapter for the convenience of the reader. For complete information on how the data were collected and analyzed, the reader is directed to the following chapter.

The results presented in the preceding charts were obtained after two searches of all locations listed on the forms in Appendix B. The second search was conducted approximately two weeks later by the staff of each branch studied. The time and effort seem warranted, since this search did turn up additional volumes in each location:

LOCATION & COLLECTION	MISSING AFTER 1ST SEARCH		MISSING AFTER 2ND SEARCH	
	%	(volumes)	%	(volumes)
Moffitt/Women's	24.54%	(308)	23.11%	(290)
Moffitt/Chicano	21.77%	(160)	20.14%	(148)
Moffitt/1976-77	4.63%	(27)	3.95%	(23)
GSSL/Reserve	2.13%	(6)	1.06%	(3)
GSSL/Non-Reserve	4.25%	(24)	3.19%	(18)
Engineering	6.13%	(65)	5.84%	(62)
Education-Psychology	4.25%	(35)	2.67%	(22)
EDL/Reserve	6.11%	(25)	4.65%	(19)
EDL/Non-Reserve	12.44%	(55)	7.01%	(31)

Past experience argues against doing a third search another week later since the improvement is minimal. Therefore none was planned for any of the branches.

However, another search was done at Moffitt over two months after the initial inventory. All volumes not located in the September inventory were searched again in December while the library was closed to the public. Of the 461 volumes searched 12 were found. The breakdown by collection after each search:

LOCATION & COLLECTION	MISSING AFTER 1ST SEARCH		MISSING AFTER 2ND SEARCH		MISSING AFTER 3RD SEARCH	
	%	(volumes)	%	(volumes)	%	(volumes)
Women's Studies	24.54%	(308)	23.11%	(290)	22.79%	(286)
Chicano Studies	21.77%	(160)	20.14%	(148)	19.32%	(142)[1]
1976-77 Acquisitions	4.63%	(27)	3.95%	(23)	3.60%	(21)

[1]One of these six volumes found on the third search is a copy which had been inadvertently omitted from the initial search form. This volume is thus not included in any other figures in this report.

Since the third search took place over two months after the initial inventories, it cannot be assumed that all 12 volumes located were there in September. Some or all of the 12 volumes may have been returned by patron who had borrowed the books without checking them out. This movement of books in and out of the collection does not necessarily reflect on the effectiveness of the searching. The results do, however, show a movement within the collection, but one which is well within the confidence intervals used in the study (see chart on page 11):

WOMEN'S STUDIES	SEARCHES 1,2,3	CHICANO STUDIES	SEARCHES 1,2,3	1976-77 ACQUISITIONS	SEARCHES 1,2,3
25.33%		23.13%		6.05%	
	24.57%		21.77%		4.63%
Missing Range +2.40%		+3.13%		+2.44%	
22.93%	23.11%	20.00%	20.14%	3.61%	3.95%
-2.40%		-3.13%		-2.44%	
	22.79%		19.32%		3.60%
20.53%		16.87%		1.17%	

Due to the constraints of time and money, the third search was conducted only for missing volumes. Therefore the results could show only a reduction in these percentages. Had all volumes been rechecked, the results would also reflect any newly missing material and the percentages could have increased instead.

A similar movement of volumes back to the collection was found during the inventories. In the course of the diagnostic work on the search forms, a record was kept of all volumes noted as missing on the shelf list cards. These books were searched in the same way as all others, and a count was kept of those located:

LOCATION & COLLECTION	TOTAL VOLUMES	VOLUMES MISSING IN SHELF LIST	VOLUMES MISSING IN SL, BUT FOUND
Moffitt Women's	1,255	206	23
Moffitt Chicano	735	89	3
Moffitt 1976-77	583	2	1
GSSL/Reserve	282	1	0
GSSL/Non-Reserve	565	3	0
Engineering	1,061	13	2
Education-Psych.	823	1	1
EDL/Reserve	409	0	0
EDL/Non-Reserve	442	0	0

Since only Moffitt has a significant number of such cases, and practices vary so greatly among branches, generalizations from these data are questionable. But they do show that such movement occurs (in Moffitt's case 9.09% of the volumes listed as missing were actually found in the searches). The data show that collections are not static, and any inventory can only reflect the status at that particular time.

B. Collection Profiles

Profiles of each collection studied were prepared from the data using SPSS. The following charts present the percentage of monographs, the percentage in English, the average publication date, and the average number of years the material has been in the collection. The results are presented for both titles and volumes, for the total collection as well as for only those volumes found missing. These charts are followed by a brief examination of call number areas with high losses, and a calculation of "timelag," the number of years it takes for a volume to be available in the stacks from its date of publication.

To supplement the data analysis in this section of the report, each library was sent a computer printout with data about the collections studied there. This provided each unit with much more detailed information than would be possible to give in this report alone.

Moffitt 1976-77 Acquisitions

	TITLES		VOLUMES	
	Total Collection	Missing	Total Collection	Missing
% Monographs	99.0%	100.0%	98.6%	100.0%
% in English	100.0%	100.0%	100.0%	100.0%
Average Date of Publication	1976.1	1976.1	1976.1	1976.0

Moffitt Chicano Studies

	TITLES		VOLUMES	
	Total Collection	Missing	Total Collection	Missing
% Monographs	99.7%	100.0%	99.6%	100.0%
% in English	99.0%	98.7%	99.5%	99.3%
Average Date of Publication	1972.8	1971.1	1972.0	1970.8

Moffitt Women's Studies

	TITLES		VOLUMES	
	Total Collection	Missing	Total Collection	Missing
% Monographs	99.7%	100.0%	99.7%	100.0%
% in English	99.8%	100.0%	99.8%	100.0%
Average Date of Publication	1973.4	1972.2	1972.6	1971.7

GSSL Non-Reserve

	TITLES		VOLUMES	
	Total Collection	Missing	Total Collection	Missing
% Monographs	82.2%	83.3%	56.5%	83.3%
% in English	98.4%	100.0%	96.8%	100.0%
Average Date of Publication	1972.4	1971.9	1972.4	1971.9
Average Years in Collection	2.5	3.3	2.6	3.3

GSSL Reserve

	TITLES		VOLUMES	
	Total Collection	Missing	Total Collection	Missing
% Monographs	98.7%	100.0%	98.2%	100.0%
% in English	100.0%	100.0%	100.0%	100.0%
Average Date of Publication	1972.3	1970.7	1972.2	1970.7
Average Years in Collection	2.9	4.7	3.2	4.7

Education-Psychology

	TITLES		VOLUMES	
	Total Collection	Missing	Total Collection	Missing
% Monographs	88.4%	95.5%	74.6%	95.5%
% in English	94.9%	100.0%	94.4%	100.0%
Average Date of Publication	1972.4	1972.3	1972.6	1972.3
Average Years in Collection	2.6	3.0	2.6	3.0

Engineering

	TITLES		VOLUMES	
	Total Collection	Missing	Total Collection	Missing
% Monographs	84.8%	77.8%	53.9%	72.6%
% in English	87.5%	88.9%	88.5%	83.9%
Average Date of Publication	1972.3	1971.9	1972.3	1971.7
Average Years in Collection	2.9	3.8	3.0	4.0

EDL Non-Reserve Collections

	TITLES		VOLUMES	
	Total Collection	Missing	Total Collection	Missing
% Monographs	95.2%	92.9%	86.2%	93.5%
% in English	81.9%	82.1%	81.4%	77.4%
Average Date of Publication	1972.0	1972.6	1972.2	1972.9
Average Years in Collection	2.5	2.8	2.6	2.6

EDL Reserve Collection

	TITLES		VOLUMES	
	Total Collection	Missing	Total Collection	Missing
% Monographs	97.3%	88.2%	94.9%	84.2%
% in English	95.0%	100.0%	96.8%	100.0%
Average Date of Publication	1973.3	1973.3	1973.3	1973.4
Average Years in Collection	2.1	2.4	2.2	2.3

Call Numbers

Complete analysis of the missing volumes by call numbers is meaningless since the samples are too small in these individual categories. However, in an attempt to locate any areas of especially high loss, all call number groups with 10 or more volumes missing are listed, and percentages calculated and corrected for misshelving as was done for total collections.

Location	Call numbers	Total Volumes	Volumes Missing	% Missing
Moffitt Women's Studies	E1-E999	67	26	38.63%
(overall: 22.93%)	HQ1-HQ999	226	78	34.33%
	HQ1000-HQ1999	354	87	24.40%
	PS3000-PS3999	138	26	18.66%
Moffitt Chicano Studies	E1-E999	225	52	22.97%
(overall: 20.00%)	F1000-F1999	86	22	25.44%
	JV6000-JV6999	21	10	47.48%
Moffitt 1976-1977	No call number group with 10 or more volumes missing.			
GSSL Reserve	No call number group with 10 or more volumes missing.			
GSSL Non-Reserve	No call number group with 10 or more volumes missing.			
Engineering	TD1-TD999	20	13	64.39%
(overall: 5.23%)	TJ1-TJ999	75	10	12.72%
Education-Psychology	No call number group with 10 or more volumes missing.			
EDL Reserve	No call number group with 10 or more volumes missing.			
EDL Non-Reserve	No call number group with 10 or more volumes missing.			

Time Lag

When possible, dates were also obtained on "timelag," the difference between the publication date and the year the volume entered the collection. The latter information was taken from the "CU stamp" on the shelf list card, whenever used. (Since the stamp is not used in Moffitt, no results are reported for those collections.) The average "timelag" for each branch is:

	Years
GSSL Reserve	1.2
GSSL Non-Reserve	2.0
Engineering	1.8
Education-Psychology	2.1
EDL Reserve	1.6
EDL Non-Reserve	2.3

The difference in the two Reserve, Non-Reserve figures suggest that libraries do indeed expedite the acquisitions process for books needed for classes.

C. Collection Utilization

In order to obtain information on the utilization made of the collections studied, brief circulation history data were collected for each title. These data were taken during the searching part of the sample inventories. The time and cost constraints of the project limited the circulation history data collected per title to the following categories:

1. no charges recorded
2. 1 or 2 charges
3. 3 or more charges
4. charged out at time of search
5. in a remote storage location
6. library use only
7. missing at time of inventory

The data were taken from the date due slips, circulation and other files. For the purposes of reporting the findings here, categories 4 and 7 were assumed to equal 2 (1 or 2 charges) by definition. Category 5 was very small because few of the titles selected were in storage. All items were to have been in the collection for five or less years. Category 6 (reference materials mainly) is also omitted because the titles do not normally circulate. The number of titles omitted from each sample is noted on each of the following charts.

Moffitt Women's Studies[1]

LEVEL OF USE	NUMBER OF TITLES	RELATIVE %	CUMULATIVE %
3 or more	437	71.52%	71.52%
1 or 2	143	23.40%	94.92%
no use	31	5.08%	100.00%
TOTALS	611	100.00%	

(20 titles omitted)

Moffitt Chicano Studies[1]

LEVEL OF USE	NUMBER OF TITLES	RELATIVE %	CUMULATIVE %
3 or more	210	71.19%	71.19%
1 or 2	68	23.05%	94.24%
no use	17	5.76%	100.00%
TOTALS	295	100.00%	

(18 titles omitted)

Moffitt 1976-77 Acquisitions[1]

LEVEL OF USE	NUMBER OF TITLES	RELATIVE %	CUMULATIVE %
3 or more	164	41.52%	41.52%
1 or 2	123	31.14%	72.66%
no charges	108	27.34%	100.00%
TOTALS	395	100.00%	

(25 titles omitted)

[1]The titles sampled from this collection were added to the collection during 1976 and the first eight months of 1977.

GSSL Reserve[2]

LEVEL OF USE	NUMBER OF TITLES	RELATIVE %	CUMULATIVE %
3 or more	100	42.74%	42.74%
1 or 2	89	38.03%	80.77%
no charges	45	19.23%	100.00%
TOTALS	234	100.00%	

GSSL Non-Reserve[2]

LEVEL OF USE	NUMBER OF TITLES	RELATIVE %	CUMULATIVE %
3 or more	138	37.70%	37.70%
1 or 2	120	32.79%	70.49%
no charges	108	29.51%	100.00%
TOTALS	366	100.00%	

Engineering[2]

LEVEL OF USE	NUMBER OF TITLES	RELATIVE %	CUMULATIVE %
3 or more	163	28.01%	28.01%
1 or 2	221	37.97%	65.98%
no charges	198	34.02%	100.00%
TOTALS	582	100.00%	

(9 titles omitted)

[2]The titles sampled from this collection were added to the collection between 1972 and 1976 and during the first eight months of 1977.

Education-Psychology[2]

LEVEL OF USE	NUMBER OF TITLES	RELATIVE %	CUMULATIVE %
3 or more	199	32.84%	32.84%
1 or 2	224	36.96%	69.80%
no charges	183	30.20%	100.00%
TOTALS	606	100.00%	

EDL Reserve[2]

LEVEL OF USE	NUMBER OF TITLES	RELATIVE %	CUMULATIVE %
3 or more	118	45.38%	45.38%
1 or 2	82	31.54%	76.92%
no charges	60	23.08%	100.00%
TOTALS	260	100.00%	

EDL Non-Reserve[2]

LEVEL OF USE	NUMBER OF TITLES	RELATIVE %	CUMULATIVE %
3 or more	62	18.56%	18.56%
1 or 2	109	32.64%	51.20%
no charges	163	48.80%	100.00%
TOTALS	334	100.00%	

(19 titles omitted)

[2]The titles sampled from this collection were added to the collection between 1972 and 1976 and during the first eight months of 1977.

D. Education-Psychology Library - Special Inventory

The special inventory was done in three subject areas (history, Juvenile Collection, and psychology-medicine). Each subject area was broken down by call number groups. A total of 217 volumes were found to be missing, representing 204 titles. The chart on page 28, arranged by call number groups, shows the results of the inventory both in terms of total volumes and those missing. The overall percentage of missing volumes was found to be about the same as that obtained in the sample inventory: 2.67% and 2.34%, respectively.

Additional analysis using SPSS was done on the missing volumes. The chart shown on page 29 is arranged by the same call number groups. It shows the percentage of monographs, the percentage in English, and the average date of publication. Data were also obtained where possible on the number of years the volumes have been in the collection, as indicated by the CU stamp. Based on 150 volumes,[1] the average was 8.9 years.

Some of the 217 missing volumes were noted as missing before this inventory. This missing status was recorded in either the circulation file or on the shelf list card. A breakdown of the findings are shown below.

	Volumes	%
Missing according to circulation files	32	14.7%
Missing according to shelf list	10	4.6%
Found to be missing for the first time in inventory	175	80.7%
TOTALS	217	100.0%

Information on the replacement and reinstatement of materials was also obtained about the 217 missing volumes. The records of the 217 volumes show that 24 (11.06%) had already been replaced once, 3 (1.38%) had been replaced twice, and 6 (2.76%) had been replaced four times. Of the 54 volumes replaced (24 + 3x2=6 + 6x4=24) only 7 (or 12.96%) had been reinstated. These data also show that no less than 7 (or 3.22%) of the 217 volumes that were missing came back during the time of the last inventory done in 1974.

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[1] 16 serials had no dates on the shelf list cards; 51 volumes had no CU stamp - mostly older titles acquired before the stamp was adopted.

Education-Psychology Library Special Inventory

Call Number	Label	Total Titles	Total Volumes	% of Collection (vols.)*	Vols Mssg	% Vols Mssg
E51-E99	American Indian	45	53	0.06%	5	9.43%
E51-E99(x)	Am. Indian-Juv.	69	70	0.07%	6	8.57%
other E	History	261	305	0.32%	18	5.90%
other E(x)	History-Juv.	181	194	0.20%	7	3.61%
P-PY(x)	Literature-Juv.	394	400	0.42%	9	2.25%
PZ8-8.2	Fairy Tales	113	114	0.12%	2	1.75%
PZ8.3	Children's Verse	78	79	0.08%	1	1.27%
PZ10.3	Animal Stories	71	71	0.07%	1	1.41%
other PZ	Other Juvenile	750	751	0.79%	10	1.33%
Rowell(x)	Rowell-Juvenile	2,040	2,068	2.17%	25	1.21%
RC321-RC431	Neurology	442	1,885	1.98%	31	1.64%
RC450-RC459	Psychopathology	166	192	0.20%	4	2.08%
RC435-RC449 and RC460-RC582	Psychiatry	803	1,174	1.23%	69	5.88%
other RC	Internal Medicine	224	320	0.34%	15	4.69%
RD-RG	Other Medicine	42	53	0.06%	1	1.89%
RJ	Pediatrics	292	409	0.43%	13	3.18%
	Totals	5,971	8,138		217	2.67%

*Based on 95,301 volumes in the total collection as of June 30, 1977.

Education-Psychology Library Special Inventory

Analysis of Missing Volumes

Call Number	Label	Number of vols mssg	% of vols Monographs	% of vols in English	Avg Date of Pub*
E51-E99	American Indian	5	80.0%	100.0%	1962.6
E51-E99(x)	American Indian-Juv.	6	100.0%	100.0%	1965.5
other E	History	18	83.3%	100.0%	1970.9
other E(x)	History-Juv.	7	100.0%	100.0%	1966.6
P-PY(x)	Literature-Juv.	9	88.9%	88.9%	1959.9
PZ8-8.2	Fairy Tales	2	100.0%	100.0%	1969.0
PZ8.3	Children's Verse	1	100.0%	100.0%	1968.0
PZ10.3	Animal Stories	1	100.0%	100.0%	1972.0
other PZ	Other Juvenile	10	40.0%	40.0%	1972.7
Rowell(x)	Rowell-Juvenile	25	100.0%	100.0%	1944.6
RC321-RC431	Neurology	31	38.7%	64.5%	1955.4
RC450-RC459	Psychopathology	4	75.0%	100.0%	1973.0
RC435-RC449 and RC460-RC582	Psychiatry	69	91.3%	98.6%	1964.2
other RC	Internal Medicine	15	53.3%	60.0%	1959.9
RD-RG	Other Medicine	1	100.0%	100.0%	1967.0
RJ	Pediatrics	13	84.6%	92.3%	1966.5
	Totals	217	78.8%	88.0%	1961.5

*10 volumes had no publication date recorded on the shelf list card.

E. Doe Library - Contemporary Art, Special Inventory

A special inventory was done of a small section of the Doe Library Loan Stacks (N6490.A1A2 through N6494.S8R421, contemporary art). A total of 335 titles, 485 volumes, were inventoried. Sixty-five volumes were found to be missing (13.40%). This percentage is slightly inflated by one periodical title with 121 volumes of which 22 were missing. However, even omitting this title from the calculations, the percentage of volumes missing remains high[1] at 11.8%.

The initial impetus for this inventory was to check on mutilation as well as the level of missing material in this area because it was suspected to be high given the nature and demand for art books. Somewhat surprisingly, NO mutilation was found in the entire section. (The methodology used is explained on pages 39 and 40.)

[1]Compared to 2.56% found in the overall loan stack sample inventories done in June 1976.

F. Other Studies

General Reference: The findings regarding the General Reference Service do not as clearly indicate that the book detection system has been effective. An item-by-item inventory was made of part of the General Reference Service's collection (Reference Room materials only) during September 1977. The work was done by the GRS staff; copies of their 1976 and 1977 reports are provided in Appendix H. In 1977 the Trade and National Bibliography Section and the Reference Stack were not inventoried, but in 1976 they were; therefore, the findings are not comparable as reported.

In an effort to provide some information on the effectiveness of the book detection systems used in the Reference Room the following chart is offered. The data are taken from past GRS inventory reports.

	1970	1974	1976	1977
Volumes missing for the first time	128	221	126	95
Total number of volumes missing	348	442	534	276
Volumes missing in 1976 but located in 1977				39

These data seem to indicate that the current level of materials missing from the GRS collection is lower than it was eighteen months ago if it is assumed that there are fewer materials missing from the Trade and National Bibliography Section and from the Reference Stack. The GRS staff do not believe that many materials are missing from these two areas. With these data and making the assumptions noted above, it appears the book detection system in the Reference Room is effective in lowering the level of missing materials from the collection.

Center for Chinese Studies: An item-by-item inventory of the entire collection was conducted between June 20 and July 8, 1977. After recalling all books and shelf reading, the single person inventory method was used. The inventory showed that "just over 3% of the books in the collection are missing."[1] (The 'one person' and 'two person' inventory methods are explained in the following chapter.)

Water Resources Center Archives Library: Also during 1977 an item-by-item inventory of the Water Resources collection was conducted. The two person method was used because of the nature of the collection (many pamphlets and other small items). The purpose of the inventory according to Mary M. Deane, the

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[1]Final Report on Library Inventory, p. 2. This was a memo dated 29 August 1977 from C. P. Chen, Librarian to Joyce Kallgren, Acting Chairman of the Center for Chinese Studies.

library's director, was to maintain the usefulness of the card catalog and to determine what items in the collection needed to be replaced. The results showed that 1/4 of 1% of the materials were missing. This was the first inventory conducted in the last 5 or 6 years. No formal report of the findings was made. The information here was provided by Mary M. Deane and Gerald J. Gieffer.

Library School Library: This library which is part of the General Library system started an item-by-item inventory in the summer of 1977. The inventory is not yet completed. The results of the study should be of interest to the readers of this document. The purpose of the inventory is that of collection management.

5. METHODOLOGY

The methodologies used to determine the sample sizes, the experimental model assumed, the data collection instruments, and the data analysis process are the subjects of this section of the report. The methodologies are presented in the order used. It is foreseen that additional Tattle-Tape effectiveness research will be conducted in the libraries currently studied and that the research will probably be done by different individuals. Therefore, the methodologies are presented in a detailed manner, designed to document the complete process, in order that the research may be replicated. The management process (planning, coordinating, staffing, etc.) used for this project is recorded in a following section.

A. The Collection Status Model

The model of the status of the collection assumes that the total collection (TC) of each library is some function of those volumes identified by their relative locations at a point in time:

$TC = f(B,M,C,I,S,R,L)$ where

- B = number of volumes on shelves in correct locations
- M = number of volumes misshelved
- C = number of volumes checked out to patrons or known to be missing
- I = number of volumes in use within the library and not checked out
- S = number of volumes missing and assumed stolen
- R = number of volumes in storage
- L = number of volumes in sorting areas, on hold and binding shelves, etc.

The function is a linear expression:

$$TC = B + M + C + I + S + R + L$$

Each collection studied using a sample inventory assumed this model. The element "I" was omitted in all cases because each library was closed to the public during the time the sample inventory was conducted. Percentages were obtained for all the remaining factors. B, C, R, and L were determined directly in the inventory. "M" was determined by counting the number of misshelved volumes and dividing by the total number of volumes shelfread:

$$\frac{\text{(shelves read) (34.5 inches/shelf)}}{\text{12 inches/foot}} \times \text{10 volumes/foot}$$

Once the misshelving factor is calculated, the equation is solved for "S."

B. Determination of Sample Size

For all collections where a sample inventory was conducted, the binomial distribution was assumed. This distribution assumes that all material is in either one of two places (accounted for or missing). It was also assumed that the level of missing volumes (P) was not over 10%. The confidence interval (E) used was 2.50%, and K is the value obtained for a confidence level of 95%. With these values set, the sample size (N) was calculated as shown below:

$$N = (P)\ (1-P)\ [K^2/E^2]$$

$$N = (.10)(1-.10)[1.96^2/.025^2]$$

$$N = 553$$

Although a sample of 553 titles was needed, plans were made to obtain a sample of 600. This was done to insure that the final count did not fall below the desired level of titles. Some samples would be discards because of error in selection (e.g. publication date not within scope of study).

C. Design of the Data Collection Instrument

Three major factors were taken into consideration in the design of the data collection instrument. The first was the different search strategy that would be needed for each collection sampled. The inventory is greatly facilitated if the search locations are arranged on the form in decreasing likelihood of success, left to right. Since each branch has different files and shelving areas to be checked, it was decided to design a separate form for each unit. Copies of each form are in Appendix B. The second was the large amount of data to be collected and the analysis to be done using the Statistical Package for the Social Sciences (SPSS). It was therefore decided to design a form that could be used for both data collection and for direct keying onto Hollerith cards. The row of boxes on the right hand side of the form was included for coding the data. An explanation is given in Appendix A, which is the SPSS Code Book for the data used. It describes the variables and defines their values where necessary. The third requirement was a simple method for obtaining data from the shelf list cards. The upper left corner of the search form was cut out to accommodate a card. The form could be placed on a photocopy machine and shelf list cards put in the upper left corner. The resulting copy is a search form with shelf list data. Any data on the back of the card were either photocopied and attached, or written on the form by hand.

D. Setting Up and Pulling the Sample

The sampling method of taking every *n*th card was used. In order to determine the distance between each sample, a measurement of the entire shelf list was required. A 50-foot metal tape measure was used for determining the length of the shelf list. Most shelf list sampling methodologies recommend that each drawer be numbered if it is not already, and then measure each drawer individually with a ruler making sure to evenly depress the cards to either end of the tray. However, this method requires that a person write the size of every drawer and then add them all up. This is very time-consuming.

The methodology used by this study simply measures all the drawers on a continuing basis up to 50 feet, and then starts over again from 50 feet. Three people are used in measuring a shelf list using this 50-foot tape method. One person stands in a location close to the card catalogs with the tape in hand; the other two people remove drawers, evenly pack the cards, and place them on the counter in front of the person with the tape, who then measures the cards in that tray. (The cards are held during the measurement to keep them from expanding back.) These card catalog trays are returned to the cabinet and the next drawers pulled. A continuous process is thus set up for this task.

Once the total number of linear inches of cards in the catalog is known, this value is then divided by the sample size. The resultant product is the distance between the samples to be drawn. This distance, if it is an even inch or half inch, can easily be marked by using a ruler. If, however, the interval between each sample is something like 1.8 inches or 1.95 inches, then it is easier to make a measuring device out of stiff cardboard, found on the back of any tablet, with the required intervals marked. This piece of cardboard or the ruler is then placed up against the cards in a tray. With it in place and the cards gently depressed against one end, a marker (3" X 5" card) is inserted into the tray next to each line on the measuring device. For example, if the required distance between samples is one inch and you have twelve inches of cards, you will insert twelve cards one inch apart. Once these cards have been placed in the catalog as markers, the next step is to actually draw the sample. First, check to see if the title coming immediately after the marker fits into the sample which you are drawing. For example, if the sample is to be of recent books, check the publication date. If it is not recent enough, proceed to the next card, until an appropriate title is reached. Then the cards are removed for photocopying. The blank card used as a marker is dropped into the catalog, alerting those using the shelf list that a card has been removed. It also facilitates refiling once the photocopying is done.

E. Photocopying Shelf List Cards

After the cards were removed and "stoppers" (markers) left in their places, the cards were taken to the Main Library's photocopying service unit. There the search forms were taped to the

photocopy machines and the cards were individually placed on the copying area. The cards were copied by the night shift in most cases. This made it possible to have cards pulled in the morning of one day and to be ready with complete search forms the next. The cards were transported in standard trays with the rods in place.

F. Diagnostics and the Refiling of the Shelf List Cards

The shelf list cards were then read completely to determine which volumes were to be searched in the inventory. Some of the data about the materials in the sample were also coded onto the search forms at this time, using the boxes in the upper right section. The following is a list of information for which the card was read and which was coded onto the form:

1. Whether the volume was missing according to the shelf list.
2. The Library of Congress classification number-the first three characters at the 1000 level.
3. The date of publication.
4. The number of years in the collection, determined by the cataloging date on the shelf list card.
5. The "time lag," which is the difference between the date of publication and the date added to the collection. (Five years was used as the maximum value. It was assumed that larger numbers reflect the acquisition of older materials and not the actual time for the acquisition and cataloging processes.
6. Whether the title is a serial or monograph.
7. The number of volumes to be searched.
8. Whether the title is in English or a foreign language.

In addition, a title number, or case number, was also given to each title sampled for ease of processing the data.

The shelf list cards were used during this diagnostic procedure. First the cards and search forms were compared to make sure all cards were copied. Second, if the copy was not clear, the needed information could be obtained from the original card. The instructions provided to the personnel doing the diagnostic work is shown in Appendix C. A very limited number of people (six) took part in this activity.

Once the diagnostic process was completed, the cards were refiled into the shelf list. Again only a very few people took part. All filing was verified before being dropped back into place.

G. Inventory Preparations

The day before the inventory took place materials were reshelved as much as possible and filing into circulation records was completed. The search forms were divided into batches of 15-20 and grouped by floor or section within the library. The materials used during the inventory (clipboards, pencils, instructions, staff time cards, etc.) were taken to the library to be inventoried the following morning.

H. The Sample Inventory

The actual inventories took up to four hours. They were all scheduled from 8:30 a.m. to 12:30 p.m. which permitted the libraries to open by 1:00 p.m. Thus service was only cut back for four or five hours on the day of the inventory.

Both written and verbal instructions were given to the personnel taking part in the inventory. The written instructions were altered for each branch to correspond to the search forms. A sample set of instructions is shown in Appendix D. The staff was also informed of any additional locations to search, such as a booktruck of discharged items.

The majority of the staff worked at searching on the shelves. Only a few people continued the search for those items that could not be located in the stacks. They checked the circulation and other files for any records of the material. Miscellaneous locations, such as trucks and bindery shelves were searched last. The staff also filled in two items in the coding area of the form. First they counted the level of misshelving, one half shelf to either side of the correct location for the title being searched (whether or not the book was found there). This number was entered on the form. At whatever stage of the search a book was found, the circulation slips inside the back cover were checked. The number of uses was coded according to the instructions printed on the form.

One or two people looked over all completed forms and finished coding them as needed. All of the search forms for the volumes that could not be located were held in the library and searched for a second time two weeks later. The search forms were then sent to keypunching.

I. Item-by-Item Inventories

In two cases (Education/Psychology-Special and Doe Library-Contemporary Art) an item-by-item inventory was conducted. The following is the procedure used.

Preparatory work. It is advisable before either a sample or item-by-item inventory to read the shelves. This places all volumes of the collection in their correct locations. In both of the item-by-item inventories conducted as part of this research the shelves were read. In addition all records (shelf list, circulation, serial holdings, etc.) need to be filed. Without these being current some materials could be reported missing when in fact they are accounted for in some unfiled library record.

Shelf work. The first step in this part of the study is to remove a section of the shelf list, a tray at a time, and go to the appropriate section of the collection. The second step is to remove from the tray as many shelf list cards as one can comfortably hold in one's hand. This is usually between 50

and 100 cards. Then take the first card and hold it up next to the spine of the corresponding book. This is done so one can easily compare the spine label of the book with the call number on the card. If the book is there, the card is put in the back of the stack of cards in one's hand, with one finger separating this card from all of the others. The inventorie continues through the stack of cards, comparing the shelf list cards with what is on the shelf, being careful to note copies, volume numbers, etc. When an item is not located, the card is tilted a different way from the others. If there is more than one physical volume for a missing title then some sort of checking symbol is used on the shelf list card to note the item or items which are not located on the shelf. When all the cards being held have been checked against what is on the shelves, the cards are then put back into the drawer, with those cards needing further checking (in the circulation file, etc.) set up on one corner. The tray of shelf list cards is then taken to the circulation files.

Circulation file work. All of the cards that are standing up in the tray are checked against the files. When a record is located for one of these titles the card is turned down. A card is only turned down once all of the physical volumes are accounted for.

Other locations where materials are temporarily stored (discharged books on trucks or sorting shelves, etc.) are then checked. This is done only for the cards that are still standing in the shelf list drawer.

Counts are then taken of those items still missing. If the total number of items in the collection is known, an account of the titles and volumes found to be missing is needed. If however the collection size is not known, then the shelf list must be evaluated (as to the number of volumes and titles.) This task was done for both of the special inventories conducted as part of this study. The size of the collection can be determined just before or just after the inventory because it is independent of the inventory itself; but without these data, percentages cannot be calculated.

Follow-up or rechecking is done two weeks later. This is done by looking for all of the items that could not be located during the first search. The shelf list cards are removed and "stoppers" placed in the file. In the case of Education/Psychology, after this second check, the cards were photocopied onto a coding form which was used for keying the data. It also provides the library with a list of the items missing so they may be considered for replacement. A copy of the form used is shown in Appendix E. Once the photocopying is complete and the resulting forms are evaluated for completeness of data, the shelf list cards are refiled and verified.

The item-by-item inventory system has a number of advantages over the two-person method. It requires half the labor and there are fewer chances for error. In the two-person method, which has been described several times in the literature of librarianship, there is a chance for an error in what the person reading the call number thinks is printed on the card. The person can misspeak. The person checking the shelf may not hear the call number correctly and may also misread the number on the spine of the book. The only problem that one has using the single person method is that an error can be made when the card and the material are compared. The single person method is difficult to use inventorying some types of materials such as pamphlets, sheet maps, scores, and other small items that are filed together. The difficulty is that one cannot manipulate these materials with only one hand.

J. Data Analysis

As was noted above the data were analyzed using the Statistical Package for the Social Sciences (version 6.5). The Code Book defining all of the variables is provided in Appendix A. Most of the data provided in this report was generated by using frequency runs (i.e. the number of times each value appears per each variable). Runs were first made analyzing the data by title, then they were weighted by the number of physical volumes to produce a comparable analysis by volume. All of the materials that were missing were also similarly analyzed by title and volume. In some areas regression analysis runs were made to determine the level of, if any, correlation among selected variables.

K. Education-Psychology Library, Special Inventory

A special item-by-item inventory was done in three subject areas where the staff suspected especially high losses: History, the Juvenile Collection, and Psychology-medicine. The single person method described elsewhere was used. Shelf list cards for those volumes missing were pulled and markers left in their place. The cards were coded as to which volumes were missing. The code is *0'77*, which means missing in the 1977 inventory. These volumes were searched again two weeks later. For those still not found, the shelf list cards were photocopied onto forms for analysis. (See Appendix E for a sample form.) Since these forms were not used for any searching, they were designed for ease of coding and keypunching which was done directly from them. The data were then analyzed using SPSS. The variables used are described in the Code Book (Appendix F).

L. Doe Library - Contemporary Art, Special Inventory

A special inventory was made of the contemporary art section (N6490.A1A2 through N9494.S8R421) in the Doe Library. The shelves were first read. Then the item-by-item, single person inventory method was used to determine the missing level. The frequency of mutilation (i.e. missing pages and/or plates) was also checked. This was done immediately after the inventory was completed.

Each volume was removed from the shelf or tipped down. The binding and top edges were checked carefully for any signs of missing pages. If the volume seemed to be in perfect condition it was returned to the shelf. If the inspector saw any indication of missing pages or plates, the entire volume was scanned.

6. MANAGEMENT OF THE PROJECT

The authoritarian style of management was used to direct this research project. This style was chosen primarily because the project had to be done within a very limited time frame. There were only four weeks in which to plan the project and collect the sample data (first search only) from the five libraries. In addition, most of the staff working on the project did not have experience in this type of work. However, during the planning stages of the project the democratic style was used. Two people who had worked on similar research were very active in the planning and running of this project.

Each unit studied provided one Library Assistant to work on this project, mainly from the circulation sections of their libraries. They helped in most of the preparatory stages as well as during the inventories themselves. This use of personnel was done for two reasons: first, so the direct cost for personnel could be kept low, and second, so a person in each unit would have a full understanding of the complete process as well as first hand experience taking a sample inventory.

The searchers were mainly student assistants (SLE's) who were employed within the General Library system. Only students with experience and a good bibliographical knowledge were sought and asked if they would care to work extra hours on this project. The response from the students was great and they formed an efficient work crew.

The project progressed on schedule for the most part. (To provide an idea of the organization and timing of the project, a copy of the Task Chart and the basic schedules are displayed in Appendix I.) A weekly progress report was made to the Associate University Librarian for Public Service. The reports included an updated Task Chart and any changes made to the basic schedule as well as interesting preliminary findings. There were two problems which did cause delays in the project. Keypunching errors were detected in the data. Correction of this problem took approximately three weeks. Change of personnel has caused a delay in typing of the final report.

The total cost of the project comes from four areas (personnel, computer, keypunching, and materials). The personnel costs were provided in part by each of the libraries through the work of one of their Library Assistants. The amount of time ranged from about 40 to 80 hours with an average near 60 for these Library Assistants. The time of the principal researcher is not available, nor was the cost of photocopying the shelf list cards recorded. The cost for the student assistants used was nearly $2,000.00, paid at an average rate of $4.00 an hour.

The total direct costs for the project are outlined below:

Computer (SPSS)	$150.00 or less
Keypunching	$356.00
Labor	$2,000.00
Materials	$25.00 or less
TOTAL	$2,531.00

7. CONTINUOUS ASSESSMENT OF THE COLLECTIONS

One of the main purposes of this project was to develop and propose an economical methodology for the continuous assessment of the libraries studied. The following methods have been worked out with each location and are in current use.

1. General Reference Service

GRS will try to conduct (budget permitting) an annual inventory of Reference Room materials. This will not be an inventory of the total GRS collection because there are materials in the Loan and Subject Halls. These materials are not protected by the book detection systems; therefore the findings, if the data are collected, will be kept separate. The annual inventory will be conducted just before the Fall quarter starts.

2. Moffitt Undergraduate Library

It has been decided to retain the circulating shelf list and to use it for obtaining future samples. The circulating shelf list is made up of the work slips, LJ cards and Choice cards, gift cards, etc., which have been used in the order process. The cards travel with the books until processing is completed. The slips are then used to bump the copy of the card in the On Order file. The cards then go into batches of approximately 15-30 days (roughly sorted by LC area) and circulate to all of the selectors within Moffitt. This makes for a complete file of all new titles and volumes added to the collection. The circulating shelf lists will be held so samples can be drawn from them. This type of file will also provide some data on the rate of theft because of the information regarding acquisition dates.

The methodology for a sample inventory is as follows:

1. Draw from the circulating shelf list the sample needed.
2. Look up the materials in the card catalog, under main entry, to determine the call number.
3. Pull the corresponding card from the shelf list.
4. Photocopy these shelf list cards onto the search form to be used in the inventory.
5. Replace the shelf list cards.
6. Conduct the sample inventory.
7. Code the data for SPSS analysis.

3. Environmental Design Library
   Education-Psychology Library
   Graduate Social Sciences Library
   Engineering Library

The methodology determined for the Moffitt Undergraduate Library was found to be workable in all four of these branch libraries. The only difference is that these libraries do not have a circulating shelf list. Instead they will all be able to set aside an extra unit card, a work slip, the request card, or some other

device which bibliographically identifies the items which have been added to the collections. These cards and slips are being placed in batches by months and years. They will in turn be used as the population from which to sample in two or three years.

The sampling and searching methods can be the same as those used by the current research. These are detailed in the methodology section of this report.

8. OBSERVATIONS AND RECOMMENDATIONS FOR FUTURE STUDY

This project has established baseline missing levels for a number of libraries and has assessed the effectiveness of the book detection systems in two locations. Future study should be conducted in order to evaluate the book detection systems that have been installed in the libraries for which baseline data were collected. Methodologies are provided in this document. It is recommended that the assessments be made in two or three years. In preparation, an annual review should be made to determine the viability of the methodology and to assure that the needed records are being maintained.

It is observed that the missing level of some of the collections are very much lower than others. This difference should be studied if at all possible. A search for indicators of the level of missing materials short of a sample inventory could also be undertaken.

It is also observed that the methodology of this project can be used for similar types of research. Studies of utilization and mutilation of materials are viewed as excellent starting places.

9. APPENDICES

Appendix A

SPSS CODE BOOK

Variable Name	Column Number	Variable Description and Code
LOC	1	Identifying Number for each branch and/or collection inventoried: 1=Moffitt Women's Studies 2=Moffitt Chicano Studies 3=Moffitt 1976/77 4=GSSL Reserve 5=GSSL Non-Reserve 6=Engineering 7=Education-Psychology 8=Environmental Design Reserve 9=Environmental Design Non-Reserve
CALL	2-4	Call number consisting of the LC letter(s) in columns 2 and 3, and the thousands place digit from the classification nubmer in column 4: 0= 1- 999 1=1,000-1,999 2=2,000-2,999 3=3,000-3,999 4=4,000-4,999 5=5,000-5,999 6=6,000-6,999 7=7,000-7,999 8=8,000-8,999 9=9,000-9,999 (Alphanumeric variable)
TITLE	5-7	Identifying number for each title. Numbering begins with one for each branch and/or collection.

Variable Name	Column Number	Variable Description and Code
PUB	8-9	Last two digits of the date of publication (exact value). Any dates before 1900 are coded as 00, i.e. as though they were published in 1900. Missing value: 99=Serials, and/or no publication date given.
YRSUC	10	Number of years the book has been in the collection (exact value). Missing value: 9=No data available
TLAG	11	Number of years from publication date to availability in the UC collection, as indicated by the CU stamp (exact value). Missing value: 9=No date available.
MONO	12	Type of publication: 0=Monograph 1=Serial
PVOL	13-14	Number of physical volumes searched per title (exact value).
ENG	15	Whether English or foreign language: 0=Non-English 1=English
MISSHELF	16-17	Number of misshelved volumes found on full shelf (exact value). Missing value: 99=Block Storage

Variable Name	Column Number	Variable Description and Code
CIRC	18	Circulation history obtained from the slip(s) on the inside back cover: 0=No circulation recorded 1=Title has circulated 1 or 2 times 2=Title has circulated 2 or 3 times 3=Volume(s) charged out at time of search (has circulated at least once) 4=Volume(s) in remote storage 5=Non-circulating book(s) (e.g. Reference books) 6=Volume(s) missing after searches
SHELF	19-20	Number of volumes per title found on shelves, including sorting areas - 1st search (exact value)
CHARG	21-22	Number of volumes per title found in all charge files (long-term, 2-hour, etc.) - 1st search (exact value)
ICLFN	23-24	Number of volumes per title in all remote storage locations - 1st search (exact value)
OTHER	25-26	Number of volumes per title found in miscellaneous locations, varying in each branch - 1st search (exact value)
MISSG	27-28	Number of volumes per title NOT found - 1st search (exact value) Missing value: 99=Volume missing according to the charge file.

Variable Name	Column Number	Variable Description and Code
SHELF2	29-30	Number of volumes per title found on shelves, including sorting areas - 2nd search (exact value)
CHARG2	31-32	Number of volumes per title found in all charge files (long-term, 2-hour, etc.) 2nd search (exact value)
ICLFN2	33-34	Number of volumes per title in all remote storage locations - 2nd search (exact value)
OTHER2	35-36	Number of volumes per title found in miscellaneous locations, varying in each branch - 2nd search (exact value)
MISSG2	37-38	Number of volumes per title NOT found - 2nd search (exact value)
SL	39-40	Number of volumes per title listed as missing in the shelf list (exact value)
CB	41-42	Number of volumes per title listed as missing on the shelf list, but which were FOUND during the search.

Appendix B

Missing according to shelf list?	No. of vols misshelved: Enter in boxes 16-17
Circulation history: If 0, enter 0 / If 1-2, enter 1 / If > 2, enter 2	in box 18

	A	B	C	D	E	F	G	H	I	J	K	L
Vol. no.	Copy no.	Open Stacks	Circ. file	Reserve shelves	2 hr. files reg/over	Hold Shelf	Binding & label	Sorting	Other	Ref. Shelves	Ref. Files	Located Search 1	Located Search 2
	53								If Reference book, do ONLY these two columns				

MOFFITT

	Col No.
[ ]	1
LC #	2- 4
title #	5- 7
pub date	9
years UC	10
time lag	11
monog	12
No. vols to be searched	13-14
Eng.	15
Misshelved vols on shelf	16-17
Circ hist	18
on shelf	19-20
Chg'd	21-22
ICLFN	23-24
other	25-26
vols msg	27-28
2nd on shelf	29-30
2nd chg'd	31-32
2nd ICLFN	33-34
2nd other	35-36
2nd vols msg	37-38

All volumes accounted for _____

Missing according to shelf list?	No. of vols misshelved: Enter in boxes 16-17
Circulation history: If 0, enter 0; If 1-2, enter 1; If >2, enter 2	in box 18

	A	B	C	D	E	F	G	H	I	J	K
Vol. no.	Copy no.	Shelf locations: Correct location	Shelf locations: Other location	Long-term: Charged	Long-term: ICLFN	Long-term: missing	Short-term	2 hr., lib use	Hold Shelf	Other	Located? Search 1	Located? Search 2
	55											

GSSL	Col No.
[ ]	1
LC #	2- 4
title #	5- 7
pub date	9
years UC	10
time lag	11
monog	12
No. vols to be searched	13-14
Eng.	15
Misshelved vols on shelf	16-17
Circ hist	18
on shelf	19-20
Chg'd	21-22
ICLFN	23-24
other	25-26
vols msg	27-28
2nd on shelf	29-30
2nd chg'd	31-32
2nd ICLFN	33-34
2nd other	35-36
2nd vols msg	37-38

All volumes accounted for _____

ICLFN according to shelf list?

Missing according to shelf list?	No. of vols misshelved: Enter in boxes 16-17

Circulation history:		
If 0, enter 0	}	in box 18
If 1-2, enter 1	}	
If > 2, enter 2	}	

		A	B	C	D	E	F	G	H	I	J	K	L
Copy no.	Vol. no.	Open Stacks	Charge file	Curr Coll	Refer.	Sorting shelves	Hold Shelves	Misc. files	Reserves	Other	ICLFN	Located Search 1	Search 2

57

ED/PSYCH	Col No.
[ ]	1
LC #	2- 4
title #	5- 7
pub date	9
years UC	10
time lag	11
monog	12
No. vols to be searched	13-14
Eng. ___	15
Misshelved vols on shelf	16-17
Circ hist ___	18
on shelf	19-20
Chg'd	21-22
ICLFN	23-24
other	25-26
vols msg	27-28
2nd on shelf	29-30
2nd chg'd	31-32
2nd ICLFN	33-34
2nd other	35-36
2nd vols msg	37-38

All volumes accounted for ___

58

15

Missing according to shelf list?	No. of vols misshelved: Enter in boxes 16-17
Circulation history: If 0, enter 0 / If 1-2, enter 1 / If > 2, enter 2	in box 18

		A	B	C	D	E	F	G	H	I	J	K	L	M
Vol. no.	Copy no.	Open Stacks	Index & abs	Reserve Shelves	In-active	Active	Over-due	2 hr.	Hold Shelves	Refer.	Storage	Other	Located Search 1	Located Search 2

ENGINEERING	Col No.
[ ]	1
LC #	2- 4
title #	5- 7
pub date	9
years UC	10
time lag	11
monog	12
No. vols to be searched	13-14
Eng.	15
Misshelved vols on shelf	16-17
Circ hist	18
on shelf	19-20
Chg'd	21-22
ICLFN	23-24
other	25-26
vols msg	27-28
2nd on shelf	29-30
2nd chg'd	31-32
2nd ICLFN	33-34
2nd other	35-36
2nd vols msg	37-38

All volumes accounted for _____

-54-

59

60

Missing according to shelf list?	No. of vols misshelved: Enter in boxes 16-17
Circulation history: If 0, enter 0 / If 1-2, enter 1 / If > 2, enter 2	in box 18

		A	B	C	D	E	F	G	H	I	J
Vol. no.	Copy no.	Open Stacks	Refer.	Rare Books	Sorting & New	Charge file	Missing file	ICLFN Shelf	Hold Shelf	Misc. files	Other

ENVIRONMENTAL DESIGN	Col No.
[ ]	1
LC #	2- 4
title #	5- 7
pub date	9
years UC	10
time lag	11
monog	12
No. vols to be searched	13-14
Eng.	15
Misshelved vols on shelf	16-17
Circ hist	18
on shelf	19-20
Chg'd	21-22
ICLFN	23-24
other	25-26
vols msg	27-28
2nd on shelf	29-30
2nd chg'd	31-32
2nd ICLFN	33-34
2nd other	35-36
2nd vols msg	37-38

All volumes accounted for _____

Reserve storage file checked?

Missing according to shelf list?	No. of vols misshelved: Enter in boxes 16-17

Circulation history:		
If 0, enter 0	If 1-2, enter 1	If > 2, enter 2

in box 18

Vol. no.	Copy no.	A Reserve Shelves	B Reserve Storage	C Charge file	D Missing file	E Hold Shelf	F Open Stacks	G Refer.	H Misc. files	I Other	J Located Search 1	K Located Search 2

ENVIRONMENTAL DESIGN

	Col No.
[ ]	1
LC #	2- 4
title #	5- 7
pub date	9
years UC	10
time lag	11
monog	12
No. vols to be searched	13-14
Eng.	15
Misshelved vols on shelf	16-17
Circ hist	18
on shelf	19-20
Chg'd	21-22
ICLFN	23-24
other	25-26
vols msg	27-28
2nd on shelf	29-30
2nd chg'd	31-32
2nd ICLFN	33-34
2nd other	35-36
2nd vols msg	37-38

All volumes accounted for _____

Appendix C

INSTRUCTIONS FOR DIAGNOSTICS

Location Code (box 1) : will already be filled in; a unique number for each library and/or collection searched.

LC no. : (boxes 2-4) call number code, recorded as follows:
(a) The first two boxes are for the LC letter classification. If there is only one letter (e.g. A181), leave the first box blank, that is, right justify the call number..
(b) The last box is for the numerical divisions, by thousands:
1- 999=0
1,000-1,999=1
2,000-2,999=2, etc., up to 9.
The example above, A181, would be coded blank/A/0.

Title no. : (boxes 5-7) arbitrary number assigned to each title being searched. For each library and/or collection, the numbering begins with 1 and continues until the entire sample is numbered. In combination with the location number, this will provide unique identification for each title searched.

Pub. date : (boxes 8-9) last two digits of the date of publication. If no publication date is given, use copyright date; if no date at all is given, leave blank. (Since we're searching newer material, the last two digits will be enough, but should you encounter anything from the 1800's, code it as 00, i.e. as though it were published in 1900.)

Years UC : (box 10) the number of years each book has been in the collection. This takes a little arithmetic. First look at the CU stamp somewhere near the bottom of the card; for example, CU 75 means that the book was cataloged in 1975, and entered the collection that year. Since this is 1977, a little subtraction tells you that the book has been in the collection for two years. In this case, enter 2 in box 10.

If the title does not have a CU stamp, ignore this step and leave the box blank.

Timelag : (box 11) This again requires a little calculation. Timelag is how long it takes for a book to be available in the UC collection from the time of its publication. Look at the CU stamp again, and at the date of publication. The timelag is the difference between them. For example, if the stamp is CU 76 and the publication date is 1974, the timelag is two years. Enter 2 in box 11. If there is no CU stamp, ignore this step and leave the box blank. If the timelag is 9 or more years, enter it as 9, the maximum for one digit coding.

Monog : (box 12) — records whether the title is a monograph or serial publication. Enter the following codes:

Monograph = 0
Serial = 1

No. vols to be searched : (boxes 13-14) — total number of physical volumes to be searched for each title. All volumes and/or copies are counted. They are also entered by volume or copy number in the two left-hand columns of the form, to tell the searchers exactly what they are to look for.

Eng. : (box 15) — records the language of the publication. Code it as follows:

All foreign languages = 0
English = 1

Appendix D

INSTRUCTIONS FOR SEARCHERS

EQUIPMENT CHECK

1. Please check to see if the boxes along the right hand margin have been filled in through "Eng. 15" (down to the first heavy blank line). If not, return the form to the person in charge. All boxes below that line should be blank at the start of the searches. In most cases, you will be filling in the next two items in the course of the search (detailed instructions below).

2. The two columns on the lower left side of the forms tell you exactly how many volumes and copies of each title you are to search. The purpose of the search is to locate each book or a record for it. If this area | Vol. no. | Copy no. | is blank, return the form to the supervisor.

3. You will be given a batch of search forms, a clip board, and pencil. Each batch of search forms may differ slightly in size. Look to see what collection (reference, reserve section, etc.) you are to search. If no special instructions are noted, begin in the open stacks.

THE SEARCH

4. For each call number: locate the spot on the shelf where the book(s) should be. If it (they) is (are) there, put a check mark (✓) in the column marked "open stacks" (or other appropriate shelf location). If not, put a zero (0) in that box. There will be a check or zero for each physical volume searched, for each location searched.

At any point in the search routine that you find a book, check (✓) the column to show where you found it and then check the "Located Search 1" column (J) on the right half of the form. Then you are finished with that particular book. But ALL the volumes/copies on a sheet must be searched before you are finished with that form. The search locations on the sheet have been arranged in order of decreasing probability of success, from left to right, for speed of searching.

THE SHELF READ

5. Shelf read half a shelf to either side of the spot where the title is or should be, and count the number of books you find out of place (misshelved). Enter that number in boxes 16-17 along the right hand margin, as instructed by the box in the top-center of the form. If no books are misshelved, enter zero (0). One digit numbers go in the right hand box. A volume is misshelved if it is more than half a shelf out of order. Do not include volume numbers or copy numbers which are out of order.

This misshelving information is used to make a statistical projection of misshelving for the library. With this data on misshelving (Ms) and the data on how many books are missing (M), we can solve for the value of theft (T) where: M = T + Ms.

THE CIRCULATION HISTORY

6. If you have found the book(s), remove it (them) from the shelf and look at the circulation slip inside the back cover. When there is only one copy and one volume , and the book has not circulated, as shown by a blank slip, enter zero in box 18. If there are one or two due dates stamped on the slip, (the book has circulated once or twice) enter a 1 in box 18. If it has circulated three or more times, enter a 2. If there is no slip in the book, leave the box blank. It will also remain blank if you do not locate the book at all.

In cases with more than one volume/copy per title, note the total circulation. If the first book you look at has circulated three or more times, no more volumes need to be checked, since that is the largest number to be noted in box 18 on the search form. In other words, look at as many volumes/copies per title as necessary to count three circulation stamps, or until all books have been checked.

CIRCULATION FILES

7. After the initial search at the correct shelf locations of the titles in your batch, please return to the Circulation Desk. The files and other locations will be checked by personnel

CIRCULATION FILES (continued)

working in the area.

AND AGAIN

8. Pick up a new batch of forms and *GO GET 'EM* again. Take a break when you need it. Being accurate is of the utmost importance in the project.

AND MORE

9. You may be asked to help in the Circulation area or with the processing of forms.

Thanks and *GOOD HUNTING!*

Appendix E

EDUCATION-PSYCHOLOGY SPECIAL INVENTORY CODING FORM

Fill out one form for each missing volume.

v. _____

Variable description	Col. no.	
Volume Identification number (consecutively from 1 for each volume)	1 - 3	☐☐☐
Title Identification number (consecutively from 1 for each title)	4 - 6	☐☐☐
Missing status: 1="Missing" in circulation file (KM77) 2= Missing on shelf list card (old and new date, e.g. 074 and 077) 3=Not found in inventory, and no record of it being missing before (077)	7	☐
Number of times replaced	8 - 9	☐☐
Number of times reinstated	10 - 11	☐☐
Call number code (from attached instructions)	12 - 13	☐☐
Language: 0=Non-English 1=English	14	☐
Monograph or serial: 0=Monograph 1=Serial	15	☐
Last three digits of publication date	16 - 18	☐☐☐
Years in the collection-for monographs only (taken from UC stamp at bottom of card: 1977 - year of UC stamp)	19 - 20	☐☐

EDUCATION-PSYCHOLOGY LIBRARY SPECIAL INVENTORY

CODE BOOK

Variable Name	Column Number	Variable Description and Code
VID	1-3	Identification number for each volume.
TID	4-6	Identification number for each title.
MISSG	7	Missing Status, coded: 1="Missing" in circulation file (KM) (KM77) 2=Missing on shelf list card (old and new date, e.g. 074 & 077) 3=Not found in inventory, and no record of it being missing before (077 only)
REPL	8-9	Number of times the volume has been replaced. (exact value)
REIN	10-11	Number of times the volume has been reinstated. (exact value)
CALL	12-13	Call number, coded by subject areas: 1=E 51-E99 American Indian 2=E 51-E99 (x's) American Indian-Juvenile Collection 3=Other E's, History 4=Other E's (x's) History-Juvenile Collection 5=P-PY Literature-Juvenile 6=PZ8-PZ8.2 Fairy Tales, Folklore, Fables 7=PZ8.3 Verses for Children 8=PZ10.3 Animal Stories 9=Other PZ's Miscellaneous Juvenile 10=Rowell (x's) Juveniles 11=RC321-RC431 Neurology 12=RC450-RC459 Psychopathology 13=RC435-RC449 and RC460-RC582 Other Psychiatry 14=All other RC's Misc Internal Medicine 15=RD-RG Other Medicine 16=RJ Pediatrics

Variable Name	Column Number	Variable Description and Code
ENG	14	Language of publication: 0=Non-English 1=English
MONO	15	Type of publication: 0=Monograph 1=Serial
PUB	16-18	Last three digits of date of publication Missing value: 999=no publication date available
YRSUC	19-20	Number of years in the collection (taken from the UC stamp at the bottom of the SL card: 1977-year of UC stamp) Missing values: 99=Serial with no date 98=No CU stamp on shelf list card

Appendix G

INVENTORY 1974

Section inventoried	Official file inch	# copies to Inv.	# msg. in Inv.	Msg. prior to Inv. *	Total	Percent Missing
BF (psychology)	9 1/2	1,938	245	16/86	347	17.9
DT25-40 (African History)	1 1/2	204	33	7/16	56	27.5
E184-185.97 (Ethnic studies)	8 1/2	1,257	399	13/97	509	40.5
E441-453 (Black History in U.S.)	1 1/2	270	66	2/18	86	31.9
H61-62 (Soc.Sci. - general)	1 5/16	361	40	2/15	57	15.8
HB171-171.5 (Econ. theory. Engl. and Amer. Texts)	2 1/2	509	63	1/15	79	15.5
HB501 (Econ.- Capital. Saving)	3/4	165	21	6/25	52	31.5
HD2789-4999 (Industry, Labor)	2 1/2	389	17	4/12	33	8.5
HQ1-471 (Soc. - Sexual behavior)	1 7/8	265	73	13/9	95	35.8
HQ1101-end HQ (Soc. - women)	1 3/4	280	66	2/20	88	31.4
HT1505-1583 (Soc. - race)	7/16	82	15	0/5	20	24.4
HV6016-end HV(Soc.-crim.)	2 3/16	871	130	11/32	173	19.9
HX36-276 (Socialism/Communism)	4	569	93	0/44	137	24.1
JK1800-9999(Pol.Sci. - U.S.)	3	370	19	2/3	24	6.5
PN1993-1999 (Film)	3	511	121	3/32	156	30.5
PR2750-2900(Shakespeare)	3 1/2	458	60	2/18	80	17.5
QC21-88 (Physics)	1 1/2	427	103	2/52	157	36.8
TR1-898 (Photography)	1/2	38	21	4/5	30	78.9
TOTAL	49 6/8	9,123	1,585	594	2,179	23.9

* Number infront of slash = declared missing after May 1974.
Number after slash = declared missing 1972-Apr. 1974.

Figures do not include the number of volumes we have withdrawn from these sections in the last 3 years.

Time used = 119 GA hours. (Included: counting volumes, checking shelves and files, making snag cards, refiling official, and then searching each section twice)

Submitted by Ann Wall
September 5,1974

Appendix H

Inventory 1976

The inventory was conducted December 1975 to February 1976. 126 volumes (representing 109 titles) were discovered missing. The location breakdown is as follows: (1974 inventory statistics are given for comparison, as well as statistics for 1970.)

	1976	1974	1970
Wall	60	140	78
Trade & Nat'l. Bibliog. (Loan Hall)	18	24	11
Biographies	15	23	15
Desk	16	13	7
Directories	3	11	0
Dictionaries	7	3	11
Atlas Case	0	3	4
Periodical & Newspaper	5	2	2
Periodical Indexes	2	2	0

As of February 1976 a total of 534 volumes is missing from the General Reference Service Collection.

Note: In the past inventory statistics and annual statistics were kept independently; no attempt was made to coordinate or reconcile the differences. Beginning with 1976 inventory annual statistics will be coordinated with inventory statistics.

mc

E. Kislitzin

UNIVERSITY OF CALIFORNIA—(Letterhead for interdepartmental use)

INVENTORY 1977

The 1977 inventory took place between September 7, 1977 and September 27, 1977. It was conducted by Pat Jemerson (LA) and two student assistants. A total of 70 hours were spent on the inventory. This includes both the initial comparison of records with physical volumes and most of the follow-up necessitated by snags. 95 volumes (representing 83 titles) were determined to be "new" missings from the collection.
The location breakdown is as follows: (statistics from previous inventories are included for comparative analysis).

	1977	1976	1974	1970
Wall	59	69	140	78
Biographies	7	15	23	15
Desk	21	16	13	7
Directories	10	3	11	0
Atlas Case	0	0	3	4
Periodical and Newspaper Ref.	2	5	2	2
Periodical Indexes	0	2	2	0
Trade Case	0	-	-	-
Abbreviations	1	-	-	-
Dictionaries	5	7	3	11

The 1977 inventory did not include the Trade and National Bibliography (Loan Hall) or the Reference Stack.
The total number of volumes missing from the collection is 276 (95 "new" missings plus 181 "old" missings). During this inventory 39 volumes which were reported missing in the 1976 inventory have surfaced.

PJ

UNIVERSITY OF CALIFORNIA—(Letterhead for interdepartmental use)

Appendix I

TATTLE-TAPE EFFECTIVENESS STUDY COMPLETED TASK CHART

TASKS	UNDE-Women	UNDE-Chicano	UNDE-1976/7	COLLECTIONS EDUC	SOCS	ENGI	ENVI	Special EDUC Project
1. Design data collection tool	✓	✓	✓	✓	✓	✓	✓	✓
2. Set up for sample	✓	✓	✓	✓	✓	✓	✓	✓
3. Pull sample	✓	✓	✓	✓	✓	✓	✓	N/A
4. Photo copy	✓	✓	✓	✓	✓	✓	✓	✓
5. Diagnostics	✓	✓	✓	✓	✓	✓	✓	
6. Refile cards	✓	✓	✓	✓	✓	✓	✓	
7. Set up for inventory	✓	✓	✓	✓	✓	✓	✓	✓
8. Inventory	✓	✓	✓	✓	✓	✓	✓	✓
9. Data from 1st search keyed	✓	✓	✓	✓	✓	✓	✓	
10. Second search	✓	✓	✓	✓	✓			✓
11. Data from 2nd search keyed								
12. Define and specify SPSS procedures								
13. SPSS procedures tested								
14. SPSS Runs and Data Analysis								
15. Report Section drafted								
16. Report Section written								
17. Report edited								
18. Report typed								
19. Report copies and distribution								

Completed as of 9/30/72

Tattle-Tape Effectiveness Study — Preliminary Task Schedule

MONDAY	TUESDAY	WEDNESDAY	THUPSDAY	FRIDAY
Aug.29 Planning SOCS- Data Form Design	Aug.30 ENGI- Data Form Design UNDE- Data Form Design	Aug.31 ENVI- Data Form Design EDUC- Data Form Design UNDE-Pull Women's	Sept.1 SOCS- Set up and pull sample and Chicano Studies	Sept.2 SOCS and UNDE - photocopy work Samples -----
Sept.5 CLOSED	Sept.6 SOCS-Diagnostics Refile Cards ENGI-Set up and pull sample UNDE-Diagnostics Refile Cards ENGI- Photocopy work	Sept.7 ENGI-Diagnostics Refile Cards EDUC-Set up and pull sample SOCS-Set up for inventory EDUC-Photocopy work	Sept.8 SOCS- Inventory EDUC-Diagnostics Refile Cards	Sept.9 ENVI-Set up and pull sample EDUC-Set up for Inventory ENVI-Photocopy work
Sept.12 ENVI-Diagnostics Refile Cards UNDE-Set up for Inventory SOCS-Data keyed, 1st search	Sept.13 EDUC- Inventory ENVI-Diagnostics Refile Cards	Sept.14 ENVI-Set up for Inventory ENGI-Set up for Inventory	Sept.15 UNDE- Inventory EDUC-Data keyed, 1st search	

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TATTLE-TAPE EFFECTIVENESS STUDY

SCHEDULE OF TASKS

	Monday	Tuesday	Wednesday	Thursday	Friday
September 1977	19 UNDE 1st Search Data to Keypunching	20 ENVI Inventory	21 ENVI 1st Search Data to Keypunching	22 ENGI Inventory SOCS 2nd Search, Data coded and sent to Keypunching	23 ENGI 1st Search Data to Keypunching
	26	27 EDUC 2nd Search, Data coded and sent to Keypunching	28 Special EDUC 2nd Search	29 Special EDUC Data coded and sent to Keypunching UNDE 2nd Search	30 UNDE 2nd Search Data coded and sent to Keypunching
October 1977	3	4 ENVI 2nd Search Data coded and sent to Keypunching	5	6 ENGI 2nd Search Data coded and sent to Keypunching	7
	---------- Outline the Report ----------				
	10	11	12	13	14
	---------- 1st Search Data Available SPSS Runs Started				
	---------- Complete Report Outline and Start Draft ----------				
	17	18	19	20 All Data Cards back from Keypunching	21
	---------- Complete First Draft of Report ----------				
	24	25	26	27	28
	---------- Make Full SPSS Runs and Start Data Analysis ----------				

TATTLE-TAPE EFFECTIVENESS STUDY
SCHEDULE OF TASKS (continued)

	Monday	Tuesday	Wednesday	Thursday	Friday
November 1977	31 (October)	1	2	3	4
	---------- Complete Data Analysis and Start Final Draft of Report ----------				
	7	8	9	10	11
	------ Complete Draft ----		------ Edit	Report -----	Report typed
	14	15	16	17	18
	---- Typing Completed ----		Report proofed	Report copied	Report distributed

July 1980	Plan for sample inventories in EDUC, ENVI, ENGI, and SOCS. The inventories are to assess the effectiveness of the Tattle-Tape systems placed in these branch libraries three years ago.